Skeletal Remains of Phoebodus politus Newberry, 1889 (Chondrichthyes: Elasmobranchii) from a Famennian Konservatlagerstätte in the Eastern Anti-Atlas (Morocco) and its Ecology

Frey, Linda ; Coates, Michael ; Ginter, Michal ; Klug, Christian

Zitteliana 91

An International Journal of Palaeontology and Geobiology

15th Annual Meeting of the European Association of Vertebrate Palaeontologists
Munich, Germany

1st to 3rd August 2017

Information and Abstracts

Munich 2017

ID 176

Linda **Frey**[1], Michael Coates[2], Michal Ginter[3], Christian Klug[1]

[1]Paläontologisches Institut und Museum, Universität Zürich, Switzerland
[2]Department of Organismal Biology and Anatomy, University of Chicago, USA
[3]Institute of Geology, University of Warsaw, Poland
linda.frey@pim.uzh.ch

Skeletal Remains of *Phoebodus politus* Newberry, 1889 (Chondrichthyes: Elasmobranchii) from a Famennian Konservatlagerstätte in the Eastern Anti-Atlas (Morocco) and its Ecology

Oral Presentation

The Devonian chondrichthyan *Phoebodus* has long been known from isolated teeth recovered from a wide variety of fossil localities, ranging from the Middle Devonian to the Upper Mississippian. Here we provide a preliminary report of the first discovery of substantial, partly-articulated skeletal and dental remains of a phoebodont, *Phoebodus politus*, from Famennian outrops of the eastern Anti-Atlas of Morocco. Initial comparisons support the hypothesized close relationship of phoebodonts with the Upper Mississippian chondrichthyan *Thrinacodus gracia*. Both taxa exhibit an anguilliform body and elongate slender cranium. However, *P. politus* also exhibits dorsal fins with ctenacanth-like fin spines, echoing informal records of similar fin spine and tooth associations from the Famennian of Alaska. This Moroccan material represents an important addition to the limited data set of Devonian chondrichthyans. As such, these data will provide a valuable test of recent phylogenetic hypotheses and add to analyses of early gnathostome diversity and disparity before and after the end Devonian Hangenberg Event. Among living elasmobranchs, *Chlamydoselachus* uniquely displays a body shape, snout-form and tooth morphology resembling those of *P. politus*. Acknowledging that the structure and likely biomechanics of the axial skeletons and jaws of these widely-separated genera differ considerably, we nevertheless suggest that *Chlamydoselachus* provides the best available living model for understanding the ecomorphology of this remarkable, late Devonian comparator.

ID 194

Marc **Furió**

Institut Català de Paleontologia Miquel Crusafont, Spain
marc.furio@icp.cat

Global Distribution of Neogene Hedgehogs (Erinaceomorpha, Mammalia)

Poster Presentation

Hedgehogs are rather common elements of present-day terrestrial ecosystems in Africa, Asia and Europe. However, their evolutionary history is obscured by some critical taxonomic uncertainties. The oldest erinaceomorphs have been documented in the Paleocene. Nonetheless, it was in the Oligocene when the first forms resembling present-day hedgehogs emerged. During the Miocene, the fossil record has provided evidence of up to four different hedgehog-like subfamilies (i.e., not considering the galericines). The distribution they had together was wider than in the present day, covering not only all the Old-World, but also North America. The present work is a first glance at the origin, distribution and evolution of these subfamilies, including the extant Erinaceinae.

ID 205

Georgios L. **Georgalis**[1,2], Walter Joyce[1]

[1]University of Fribourg, Switzerland
[2]University of Torino, Italy
dimetrodon82@gmail.com

The Biogeographic Origins of European Paleogene Trionychians

Oral Presentation
EAVP Annual Meeting Grant award winner

Early Paleogene faunas from Europe consist of a mosaic of endemic forms and taxa with either Asian and North American affinities. This pattern resulted either through direct dispersal of species from Asia or indirect dispersal from North America to Europe via Greenland. Turtles of the clade Pan-Trionychia (i.e., pig-nosed turtles, Pan-Carettochelyidae, and soft-shelled turtles, Pan-Trionychidae) are abundant during the Paleogene of Europe, but their biogeographic origins remain obscure. No confirmed Mesozoic trionychians are known from Europe, with the exception of a single occurrence of a Late Cretaceous pan-trionychid from Sweden. Whereas pan-trionychids occur throughout Europe starting with the early Paleocene, the earliest verified occurrences of carettochelyids are from the early Eocene. The overall resemblance of the earliest European carettochelyid, *Allaeochelys delheidi*, with older congeners from the southern margin of Asia, along with only cursory evidence of that clade in North America, hint at a dispersal route from Asia to Europe. The case of the earliest European trionychids is more complex, as at least two morphotypes are present in the Paleogene. The larger one, *Axestemys vittata*, shows strong affinities with coeval North American forms. Taxonomic attribution of the smaller, indeterminate morphotype